

CLAIMS

What is claimed is:

1. A heat exchanger comprising:
a core including fins and tubes extending between opposite ends;
5 a tank having a longitudinal axis and extending across one end of said
core and in fluid communication with said tubes;
said tank having an open end and defining an inlet on an inlet axis
adjacent said open end and transverse to said longitudinal axis; and
an end cap closing said open end and presenting an inlet diverter wall
10 extending into said tank across said inlet axis for re-directing fluid from said inlet and
longitudinally into said tank and along said one end of said core.
2. A heat exchanger in claim 1 wherein said inlet diverter wall slants
away from said inlet at an acute angle A to said inlet axis.
- 15 3. A heat exchanger in claim 2 wherein said inlet diverter wall is planar.
4. A heat exchanger in claim 2 wherein said inlet diverter wall is curved.
- 20 5. A heat exchanger in claim 4 wherein said inlet diverter wall presents
one of a convex and concave surface facing said inlet and curving across said inlet
axis at an acute angle A.

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6. A heat exchanger in claim 2 wherein said end cap further comprises a tube diverter wall extending longitudinally into said tank in spaced relationship to said tubes of said core and adjoining said inlet diverter wall to define a corner therebetween to direct fluid out of said tubes and longitudinally into said tank.

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7. A heat exchanger in claim 6 wherein said tube diverter wall is planar.

8. A heat exchanger in claim 7 wherein said tube diverter wall slants away from said tube wall.

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9. A heat exchanger in claim 8 wherein said corner extends into said tank in a pyramidal fashion.

10. A heat exchanger in claim 6 wherein said tube diverter wall is curved.

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11. A heat exchanger in claim 6 including a core reinforcement extension extending from said core parallel to said longitudinal axis and defining an access slot, said end cap including a locking tab extending through said access slot.

5 12. A heat exchanger in claim 11 wherein said core reinforcement extension is bent over said locking tab.

13. A heat exchanger in claim 1 wherein said end cap is secured to said tank by brazing.

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14. A heat exchanger in claim 1 wherein said tank and said end cap are aluminum.

15 15. A heat exchanger in claim 6 wherein said end cap includes a peripheral flange extending over and engaging said open end of said tank.

16. A heat exchanger in claim 15 wherein said end cap includes a peripheral waist depending from said flange and engaging the interior of said tank.

20 17. A heat exchanger in claim 16 wherein said diverter walls extend inwardly from said waist in a pyramidal fashion.

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18. A heat exchanger in claim 17 wherein said tank is rectangular in cross section with a tube wall surrounding said tubes and an outer wall and two parallel side walls extending between said tube and outer walls, said inlet being disposed in a first of said side walls, said end cap including a face wall extending straight from said waist and engaging the second of said side walls of said tank, said cap including a rear wall extending straight from said waist and engaging said outer wall of said tank.

19. A heat exchanger in claim 18 wherein said diverter walls and said face and rear walls of said end cap converge at a linear peak extending from said corner to said rear wall.